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(54) **Stator of a rotary electric machine and manufacturing method thereof**

(57) To secure insulation between electrical conductors (331a, 332a, 331b, 332b) at a coil end (31b), a first electrical conductor at one coil end (31b) is arranged so as to intersect a radially adjacent second electrical conductor at one point or more. The electrical conductor is formed with radial indentations (331g, 331h) in side faces that are opposite side faces in opposing electrical conductors at any of the intersecting portions, the inden-

tations (331g, 331h) having depths that increase toward the near end of the electrical conductors. Sufficient clearances are thereby secured between electrical conductors in their intersecting portions near their ends where the insulating films (37) are susceptible to damage because of welding heat. Electrical insulation is thus ensured, and the cooling efficiency at the coil end (31b) is improved.

FIG. 5

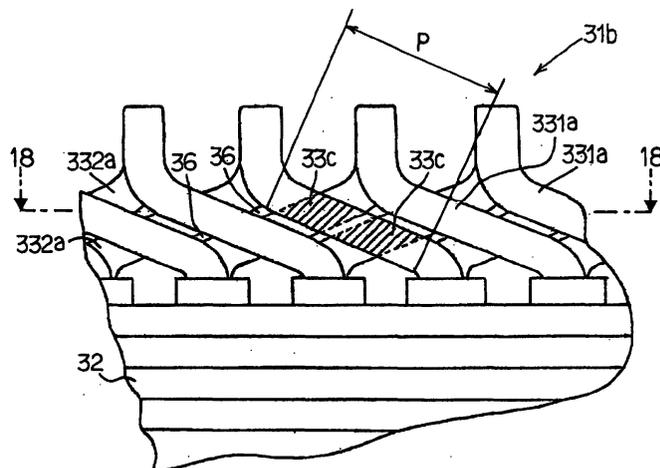
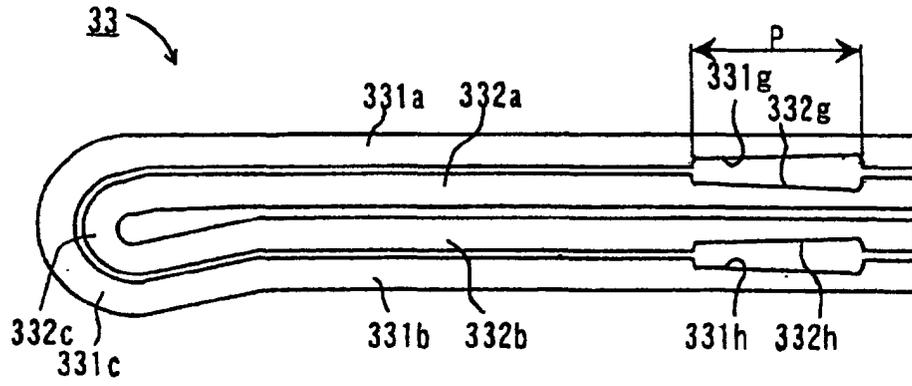


FIG. 6





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EUROPEAN SEARCH REPORT

Application Number
EP 03 00 0798

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 1 005 137 A (DENSO CORP) 31 May 2000 (2000-05-31) * column 1 - column 11 * * figures 2-11 *	2-4, 10, 12	H02K3/50 H02K3/12
Y	---	8,9	
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A	---	8,9	
A	US 5 619 088 A (YUMIYAMA SHIGERU ET AL) 8 April 1997 (1997-04-08) * the whole document *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H02K
The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		14 April 2004	Le Chenadec, H
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

EPO FORM 1503 03/02 (P04/C01)



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):

- No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

- None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1, 10-13

Stator with conductors comprising indentations with increasing depth and manufacturing methods thereof.

2. Claims: 2-4

Stator comprising indentations.

3. Claims: 5-9

Stator with conductors comprising protrusions permitting to assure a gap between the conductors without damaging the insulation of the slot.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 03 00 0798

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-04-2004

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82